

What is claimed is:

30. (New) A device for rendering sheet material secure from counterfeiting,
5 comprising a pattern of predetermined configuration consisting of
polyethylene dioxythiophene polystyrene sulfonate (PEDT/PSS) applied to
the sheet material.

31. (New) The device of claim 30, wherein the sheet material comprises
10 paper and wherein the pattern of PEDT/PSS is applied to the paper in the wet
pulp state thereof.

32. (New) The device of claim 30, wherein the sheet material comprises
paper and wherein the pattern of PEDT/PSS is applied to the paper in a dried
15 continuous web state thereof.

33. (New) The device of claim 30, wherein the PEDT/PSS is of the
CPP105 formulation.

20 34. (New) The device of claim 30, wherein the PEDT/PSS in its applied
state is overtly indistinguishable from the paper.

35. (New) The device of claim 34, wherein the PEDT/PSS has a surface
resistance determined by at least one of its manner of application, its manner
25 of integration, its composition and its specific formulation.

36. (New) The device of claim 35, wherein the PEDT/PSS contains an
additive.

30 37. (New) The device of claim 36, wherein the additive is at least one of a
pigment recognizable by the naked eye, an optically active or actuable

pigment or a pigment of magnetic properties.

38. (New) The device of claim 30, wherein the sheet material contains a water mark and the PEDT/PSS applied to the water mark.

5 39. (New) The device of claim 31, wherein the PEDT/PSS is partially or homogeneously applied to the paper in the wet pulp state thereof.

40. (New) The device of claim 32, wherein the PEDT/PSS is partially or homogeneously applied to the paper in the dried state thereof.

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41. (New) The device of claim 31, wherein the paper in the wet pulp state thereof is provided with a security element comprising a foil and wherein the PEDT/PSS is applied to the security element.

15 42. (New) The device of claim 41, wherein the PEDT/PSS is at least partially applied to the foil as a printed image.

43. (New) The device of claim 41, wherein the foil is embedded in the paper in the wet pulp state thereof and comprises a first support foil provided
20 with a metallization comprising sectional demetallizations covered by a at least a further layer comprising PEDT/PSS.

44. (New) The device of claim 43, wherein the PEDT/PSS is applied as a bonding agent between at least the first support foil and the metallization and
25 the first support foil and the paper in its wet pulp state.

45. (New) The device of claim 44, wherein a layer of PEDT/PSS is applied to the first support foil on the surface thereof opposite the metallization.

30 46. (New) The device of claim 44, wherein a metallization is applied to one surface of the first support foil and the PEDT/PSS is applied as a layer on the

metallization.

47. (New) The device of claim 43, wherein the metallization is covered by a further support foil and at least one of the first and further support foils is covered by a layer of PEDT/PSS.

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48. (New) The device of claim 43, wherein the elasticity coefficient of the layer of PEDT/PSS is greater than the elasticity coefficient of the metallization.

10 49. (New) The device of claim 30, wherein the PEDT/PSS is applied as a component of a printing ink.

50. (New) The device of claim 30, wherein the PEDT/PSS prior to its application to the sheet material is connected to at least one of a foil, a
15 curable lacquer layer, a reflective layer and a protective layer.

51. (New) The device of claim 30, wherein the PEDT/PSS is applied by one of printing, spraying and submersion.

20 52. (New) The device of claim 30, wherein the sheet material comprises at least one of a web of paper and a foil applied to the web.

53. (New) The device of claim 30, wherein the sheet material comprises at least one of a bonding agent and a primer.

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54. (New) The device of claim 30, wherein the sheet material comprises a packing material.

55. (New) The device of claim 30, wherein the sheet material comprises an
30 article.

56. (New) The device of claim 30, wherein the sheet material comprises a security element recognizable by the naked eye.

57. (New) The device of claim 30, wherein the PEDT/PSS is applied as at
5 least one continuous surface.

58. (New) The device of claim 30, wherein the sheet material comprises a discontinuity and the PEDT/PSS extends over the discontinuity.

10 59. (New) The device of claim 30, wherein the PEDT/PSS is applied as a pattern comprising at least one line.

60. (New) The device of claim 30, wherein the PEDT/PSS is applied of a pattern comprising a plurality of dots.

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61. (New) The device of claim 30, wherein the PEDT/PSS is detectable by at least one of its electric conductivity and optical properties.

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